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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,102	09/05/2000	Ki Hyun Joo	EXIO-002	7284

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EXAMINER

PHUNKULH, BOB A

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/655,102

Applicant(s)

JOO ET AL.

Examiner

Bob A. Phunkulh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 7 and 9-20 is/are rejected.
- 7) ☒ Claim(s) 2-6 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: please provide the US patent application number cited page 1.

Appropriate correction is required.

Drawings

Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 10-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 10-11, the subject matter "said delay element units" is vague and indefinite since there is only one delay element cited in claim 9.

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Claim 1 recites the limitation "said antenna unit" in 13. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Weaver, Jr. et al. (US 5828661), hereinafter Weaver.

Regarding claim 9, Weaver discloses an integrated enterprise Code Division Multiple Access, CDMA, wireless base station comprising:

a sectorized base station controller coupled to control communication between the base station and mobile communication units within an identified geographical sector within a building (see figure 1);

an extended antenna unit (334, 336, see figure 13);

a signal distribution concentration unit (the combination of transmitter 330 and receiver 338); and

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a delay element unit (delay line 340, see figure 13).

The base station of claim 10, wherein said delay element units are daisy chained to said extended antenna unit (see figure 13).

Regarding claim 11, Weaver discloses the delay element units are star chained to said extended antenna unit (see figure 13).

Regarding claim 12, Weaver the distribution concentration unit comprises a handoff control logic for handling signal handoffs between the base station and a macro system (see figure 4A-4C).

Regarding claim 13, Weaver discloses the handoff control logic further includes transition logic for providing handoffs within a hand-off transition area (see figure 4A-4C).

Regarding claim 14, Weaver discloses the distribution concentration unit further comprises a pilot strength measurement message adaptable for reporting timely handoffs between the base station and a macro system (PSMM, see col. 15 line 57 to col. 16 line 35).

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Regarding claim 15, Weaver, Jr. discloses an enterprise wireless communication system, comprising:

- a plurality of base stations (base stations 12, 14, 16, see figure 1);
- a plurality of antennas distributed in predetermined regions within the enterprise system;
- a plurality of delay elements coupled to said plurality of base stations (each base station is supply with a delay line, see figure 13);
- a plurality of mobile communication units (see figures 1-4); and
- a designated handoff transition region for enabling the mobile communications units communicate with an external public communication system (see figures 4A-4C).

Regarding claim 16, Weaver, Jr. discloses the base stations comprise location identification logic for identifying the location of each of the mobile communication units within the enterprise system (see col. 15 line 46-56).

Regarding claim 17, Weaver, Jr. discloses the base stations further comprise time delay detection logic for detecting the duration of time delays of the delay elements (col. 28 lines 43-61).

Regarding claim 18, Weaver, Jr. discloses the delay elements are inserted into a communication path between said base stations and said mobile communication units (see figure 13).

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Regarding claim 19, Weaver, Jr. discloses the base stations are coupled to receive a combined code division multiple access (CDMA) signal received from multiple CDMA signals transmitted from the mobile communication units via said antennas (see col. 5 line 31 to col. 6 line 15).

Regarding claim 20, Weaver, Jr. discloses the handoff requests between the mobile communication units and the base stations can only occur in said handoff transition region (see col. 18 lines 10-36).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender (US 6,366,561), hereinafter Bender, in view of Weaver.

Regarding claim 1, Bender discloses an enterprise optimized hand-off control wireless code division multiple access, CDMA, communication system, comprising:

a local area network (sub network 220A), LAN, having an Ethernet communication back-bone (Ethernet 280A, see figure 2);

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a plurality of CDMA wireless base stations (MPTs) coupled to said Ethernet communication back-bone (see figure 2);

a plurality of extended antenna units coupled to said CDMA wireless base station;

a communication path coupled to said Ethernet communication back-bone;

a signal distribution concentration unit (router) coupled to said base station (see figures 2-3, 5).

Bender fails to disclose a delay circuit coupled to the antenna unit and a user location determination logic for determining a location of a mobile communication user.

Weaver, on the other hand, discloses a transmitter 330 supplies a transmit signal to diplexer 332 which in turn supplies a signal to antenna 334. In addition, transmitter 330 supplies a transmit signal (which in the most basic embodiment contains the same signals as the original transmit signal) to delay line 340 and to diplexer 342 and to antenna 336. The delay line adds sufficient delay so that the signal radiated by antenna 336 arrives at the remote unit with a delay greater than one chip relative to the signal from antenna 334 SO that the remote unit can distinguish the signals and separately receive and demodulate them (see figure 13 and col. 28 lines 43-61).

Weaver, further discloses the base stations comprise location identification logic for identifying the location of each of the mobile communication units within the enterprise system (see col. 15 line 46-56)

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to supply the delay circuit and location identification

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logic of Weaver in the system taught by Bender to add sufficient delay so that the signal radiated by an antenna arrives at a remote unit with a delay greater than one chip relative to the signal from the antenna so that the remote unit can distinguish the signals and separately receive and demodulate them; and to determine the location of the wireless subscriber for determining when to initiate a handoff.

Allowable Subject Matter

Claims 2-6, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Or:

Hand-delivered responses should be brought to Crystal Park II, 2021

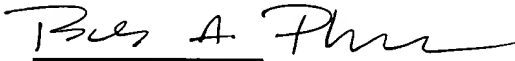
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(703) 308-8251**. The examiner can normally be reached on Monday-Friday from 8:00 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Douglas W. Olms**, can be reach on **(703) 305-4703**. The fax phone number for this group is **(703) 872-9314**.

Bob A. Phunkulh

A handwritten signature in cursive script, appearing to read "Bob A. Phunkulh", written over a horizontal line.

TC 2600

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February 4, 2004